

41168 to 41243—Continued. (Quoted notes by Mr. O. F. Cook.)

41174. "No. 2034. La Paz, Bolivia, August 4, 1915. A white variety, pinkish at the eyes and at the tips. Strongly thickened at the end, like the red variety, but the eyes closer together."

41175. "No. 2035. La Paz, Bolivia, August 4, 1915. A uniform pink variety, in form nearly cylindrical."

41176. "No. 2036. La Paz, Bolivia, August 4, 1915. A deep red variety, strongly thickened at the end. Eyes rather remote."

For illustrations of oca plants showing rootstocks, see Plates VII and VIII.

41177 to 41184. *ULLUCUS TUBEROSUS* Caldas. Basellaceæ. Ullucu.

"The *ullucu* or *papa lisa* is a root crop raised generally in the highlands of Peru and Bolivia, in the region where potatoes are grown. The tubers have a remarkably close resemblance to potatoes, except that the skins are smoother and the colors brighter, running from white through various intermediate shades to deep yellows and reds. There are also spotted varieties, white and pink or light yellow and pink. Judging from its representative in the native markets, the *papa lisa* ranks next to the potato in popular favor in Peru, being used largely in the making of soups, which is the principal branch of the culinary art among the Indians. The flavor of the *papa lisa* is peculiar and usually not attractive to the unaccustomed palate. But being one of the plants that accompany the potato in Peru, it may not be without interest to observe its behavior in the United States. The tubers are produced in abundance, and if the plant should be found to grow readily the possibilities of utilization should be carefully studied. The plant is a relative of the so-called Madeira vine, familiar in cultivation as an ornamental climber. A wild *ullucu*, common in the region of Sicuani, is very similar to the Madeira vine, but the plants of the cultivated varieties do not attain a length of more than 2 or 3 feet. The general appearance and habit of growth are also somewhat like those of the sweet potato."

41177. "No. 2027. Sicuani, Peru, April 9, 1915. *Papa lisa*. Yellow, spotted with pink."

41178. "No. 2028. Ushcopata, a few miles above Sicuani, Peru, April 9, 1915. *Papa lisa*. Yellow, size very variable, sprouts light pink."

41179. "No. 2038. Cuzco, Peru, April 18, 1915. *Papa lisa*. Small round yellow or yellowish pink variety."

41180. "No. 2039. Cuzco, Peru, April 18, 1915. *Papa lisa*. Long, pinkish purple, enlarged at the base. Sprouting mostly at the tip. Sprouts dark pink, thick."

41181. "No. 2040. Cuzco, Peru, April 18, 1915. *Papa lisa*. White variety, elongated form. Sprouting from upper end."

41182. "No. 2041. Cuzco, Peru, April 18, 1915. *Papa lisa*. White variety, with pink blotches, rounded form. Uniform in shape. Well sprouted, slightly withered."

41183. "No. 2043. Lima, Peru, August 17, 1915. Color, pale greenish yellow; the largest variety of *ullucu* seen in Peru."

41184. "No. 2044. Lima, Peru, August 17, 1915. Color, deep pinkish yellow. Tubers large and broad."

For an illustration of the *ullucu*, see Plate IX.